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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,558	04/02/2004	Horst Hoffmann	H 5341	3798

423 7590 11/27/2006

HENKEL CORPORATION  
THE TRIAD, SUITE 200  
2200 RENAISSANCE BLVD.  
GULPH MILLS, PA 19406

EXAMINER
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HAIDER, SAIRA BANO

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,558	<b>Applicant(s)</b> HOFFMANN ET AL.	
	<b>Examiner</b> Saira Haider	<b>Art Unit</b> 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4,6-18 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,4,6 and 20-22 is/are allowed.
- 6) ☒ Claim(s) 7-9 and 12-16 is/are rejected.
- 7) ☒ Claim(s) 10,11,17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Examiner maintains the position set forth in the Office Action of 5/24/2006. The claim objections are rendered moot. Examiner's reply to the arguments is below.

#### *Claim Rejections - 35 USC § 103*

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 7 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al. in view of Henkel.

4. From a Prior Office Action:

5. Schneider teaches multilayer thermoformable composite veneer films to be heated and applied to shaped wood parts, wood boards, plasterboard, metal, or metal sheets (abstract; col. 2 lines 31-46). Hot-melt polyurethane adhesives are used to apply the films to the substrates (col. 8 lines 12-22; examples). Several of the layers of the film may contain poly(meth)acrylate materials (col. 4 lines 24-41; col. 5 lines 14-28; col. 5 lines 42-65), demonstrating the application of an acrylate-containing film to a substrate via polyurethane hot-melt adhesive. The exterior layer is pre-treated by corona treatment to aid the adhesion of the bonding layer (col. 7 lines 45-50). However, the reference does not disclose the applicant's specific adhesive composition. Hence attention is directed towards the Henkel reference.

6. Henkel discloses moisture-curable hot melt polyurethane adhesives comprising reaction products of polyisocyanates and hydroxyl-containing low molecular weight polymers derived from ethylenically unsaturated monomers (abstract). Prepolymers are made by reacting the polyisocyanate with polyether polyols, polyester polyols, and/or aromatic polyols (p. 10 lines 5-7). Mixtures of crystalline and amorphous polyesters are used (p. 11 lines 27-29). Specifically, Henkel discloses that

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mixture of 2 to 3 polyether polyols differing in their average molecular weight may be used, preferred polyether polyols are diols, wherein the average molecular weight (number average molecular weight) of the polyether polyols is in the range from 200 to 10,000 and preferably in the range of 400 to 6,000. Henkel provides guidance on the desired average molecular weight of the polyether polyol diols, specifically; Henkel guides one towards the lower end of the average molecular weight range. Hence, Henkel would envisage employment of the polyether polyol diols as claimed. Tackifying resins are used, including those containing active hydrogen groups (p. 10 lines 8-25; p. 14 lines 25-27; p. 15 lines 30-31). Henkel teaches moisture-cured hot melt polyurethane adhesives having improved heat resistance, moisture resistance, and solvent resistance when applied to wood substrates (p. 18 lines 3-12).

7. Therefore, it would have been prima facie obvious to use the hot-melt adhesives of Henkel's invention as the bonding layer in Schneider's articles to provide improved heat resistance, moisture resistance, and solvent resistance.

8. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields et al. in view of Henkel.

9. From a Prior Office Action:

10. Fields discloses flexible, weatherable decorative sheet materials comprising color coats, clear coats, adhesives, and a thermoformable backing (figures 4-5). Both pigmented and colorless paint films are formed from alloys containing methacrylate polymers (col. 6 line 26-col. 7 line 15; example). Adhesives used to attach the paint films to a thermoformable backing include urethane adhesives (col. 7 lines 46-51), and thermoformable backings include ABS, PVC, and polypropylene

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(col. 8 lines 25-34). However, the reference does not disclose the applicant's specific adhesive composition. Hence, attention is directed towards the Henkel reference.

11. Henkel discloses moisture-curable hot melt polyurethane adhesives comprising reaction products of polyisocyanates and hydroxyl-containing low molecular weight polymers derived from ethylenically unsaturated monomers (abstract). Prepolymers are made by reacting the polyisocyanate with polyether polyols, polyester polyols, and/or aromatic polyols (p. 10 lines 5-7). Mixtures of crystalline and amorphous polyesters are used (p. 11 lines 27-29). Specifically, Henkel discloses that mixture of 2 to 3 polyether polyols differing in their average molecular weight may be used, preferred polyether polyols are diols, wherein the average molecular weight (number average molecular weight) of the polyether polyols is in the range from 200 to 10,000 and preferably in the range of 400 to 6,000. Henkel provides guidance on the desired average molecular weight of the polyether polyol diols, specifically; Henkel guides one towards the lower end of the average molecular weight range. Hence, Henkel would envisage employment of the polyether polyol diols as claimed. Tackifying resins are used, including those containing active hydrogen groups (p. 10 lines 8-25; p. 14 lines 25-27; p. 15 lines 30-31). Henkel teaches moisture-cured hot melt polyurethane adhesives having improved heat resistance, moisture resistance, and solvent resistance when applied to thermoplastic substrates (p. 18 lines 3-12; p. 23 lines 5-15). Thus, it would have been prima facie obvious to use the hot-melt adhesives of Henkel's invention as the bonding layer in Schneider's articles to provide improved heat resistance, moisture resistance, and solvent resistance.

12. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al. in view of Henkel as applied to claims 7 and 12-15 above, and further in view of Kokrhanek.

13. From a Prior Office Action:

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14. Schneider and Henkel apply as above, teaching the application of synthetic veneers to wood parts but failing to teach a pretreatment step for the wood before the veneers are applied. Kokrhanek teaches that primer layers are used on the wood layers to promote adhesion of the bonding layer (col. 7 lines 6-21). It is the examiner's position that it would have been prima facie obvious to use primer layers in the inventions of Schneider and Henkel to promote the adhesion of the bonding layers.

***Allowable Subject Matter***

15. Claims 1, 3, 4, 6, and 20-22 are allowed as per the reasons disclosed in the Final Office Action mailed on October 20, 2005.

16. Claims 10-11 and 17-18. objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The closest prior art, Henkel, discloses moisture-curable hot melt polyurethane adhesives comprising reaction products of polyisocyanates and hydroxyl-containing low molecular weight polymers derived from ethylenically unsaturated monomers. Although the reference suggests MDI, polypropylene glycols, crystalline polyesters, low molecular weight polymers, and tackifiers, the reference does not suggest the specific amounts and molecular weights of all of the claimed components. It is the examiner's position that the specific claimed compositions would provide a novel and unobvious step over the prior art.

***Declaration under 37 CFR §1.132***

18. The Declaration under 37 CFR 1.132 filed March 17, 2006 is insufficient to overcome the rejection of the claims as set forth in the above because: the results are not representative of the closest prior art. The examples of the specification do not provide sufficient evidence to suggest

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unexpected results. Case law holds that evidence is insufficient to rebut a *prima facie* case if not commensurate in scope with the claimed invention. *In re Grasselli*, 713 F.2d 731, 741, 218 USPQ 769, 777 (Fed. Cir. 1983). Case law holds that evidence of superior properties in one species is insufficient to establish the nonobviousness of a subgenus containing hundreds of compounds. *In re Greenfield*, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978).

### ***Response to Arguments***

19. Applicant's arguments filed 9/19/2006 have been fully considered but they are not persuasive.

20. Applicant s have essentially argued that the Henkel reference does not teach nor suggest the criticality of using at least two different diols, one with an average molecular weight of above 1,000, and the other with an average molecular weight not greater than 800. In support of this argument applicants have cited Examples 2, 3 and 5 (in accordance with applicant's specification).

21. Examiner has thoroughly reviewed the arguments, the references, and applicant's specification, and concludes that the rejection made was valid. Firstly, Henkel discloses that Specifically, Henkel discloses that mixture of 2 to 3 polyether polyols differing in their average molecular weight may be used, preferred polyether polyols are diols, wherein the average molecular weight (number average molecular weight) of the polyether polyols is in the range from 200 to 10,000, preferably in the range of 400 to 6,000 (page 10). Henkel provides guidance on the desired average molecular weight of the polyether polyol diols, specifically; Henkel guides one towards the lower end of the average molecular weight range. Hence, Henkel would envisage employment of any variety of diols with number average molecular weight which fall within the disclosed range. For example, Henkel would readily envisage utilization of two diols having number average molecular weights of 400 and 6,000, or two diols with number average molecular weights of 500 and 5,000.

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This is supported by the fact that Henkel states a mixture of 2 to 3 polyether polyols differing in their average molecular weight may be used. Hence Henkel envisages a non-negligible difference in the average molecular weights of the polyols. It has been held that where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

22. Additionally, It is the examiner's position that the number average molecular weights are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

23. In view of this, it would have been obvious to one of ordinary skill in the art to utilize two diols having molecular weights including those within the scope of the present claims so as to produce desired end results.

24. It is noted that applicants can rebut a *prima facie* case of obviousness based on overlapping ranges by showing the criticality of the claimed range. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results. Applicants have not adequately presented in the specification or the declaration the criticality of the claimed range hence have not successfully rebutted the *prima facie* case of obviousness.



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25. In response to applicant's citation of the examples provided in applicant's specification, it is noted that applicant has utilized PURMELT QR3530-24. Applicant has alleged that this polyol has an average molecular weight of 1000, and that a diol of a molecular weight not greater than 800 is not utilized. Applicant has not provided support for this allegation in the specification, or in the Declaration. Hence examiner is unable to determine if example 2 and 3 represent unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saira Haider whose telephone number is (571) 272-3553. The examiner can normally be reached on Monday-Friday from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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